

Copernicus and Arabic Astronomy: A Review of Recent Research

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by: George Saliba On the occasion of 464th anniversary of the death of Copernicus, we provide below a list of selected references to document the influence of Islamic astronomy, mainly that of the Maragha observatory, on the astronomical and mathematical models described by Copernicus in his ground breaking book published in 1543, and which is commonly believed to have changed the course of history of astronomy and our view of the universe.

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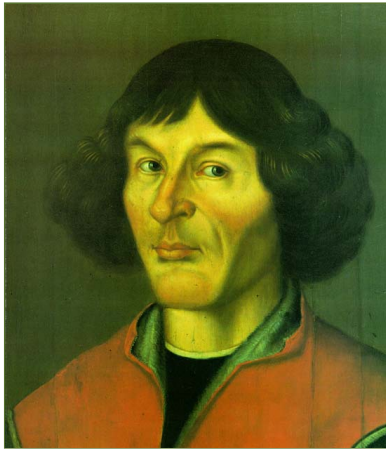


Figure 1. Portrait of Copernicus (beginning of the 16th century). ([Source](#))

Since the 50s of the 20th century, historians of science endeavored to document the connection between Copernicus and his Islamic predecessors from the 11th century to the 15th century. In this perspective, important and original works were published by Edward S. Kennedy, from the American University of Beirut. Other scholars went along the same path, such as Victor Roberts, who collaborated with Ted Kennedy, and Willy Hartner, who had the chair of history of science in Frankfurt University (the chair occupied by David A. King after that Hartner retired). Since the late 70s, scholars coming from the Arab world and exerting teaching and research in several American universities, continued this research and provided decisive evidence such as the works of George Saliba (Columbia University) and F. Jamil Ragep (Oklahoma University, now in McGill, Montreal).

Based on recent manuscript discoveries, these works argue that Islamic science produced astronomical theories of the highest order. These theories were surveyed and their possible ways of transmission were depicted in detail. Taken together, the primary texts, and the interpretive essays that highlighted them, have revealed very extensive similarities between the mathematics that was used by Copernicus to develop his theories and the mathematics that was used by mathematical astronomers of the Islamic world some two to three hundred years before. In some instances, as in the case of the model for the motion of the planet Mercury, it was found that Copernicus even made mistakes in his interpretation of the earlier mathematical model that he apparently inherited from the works of the Damascene astronomer Ibn al-Shatir (d. 1375). In other instances he remained faithful to the mathematical formulations that were developed by other astronomers of the Islamic world such as Mu'ayyad al-Din al-Urdi (d. 1266) and Nasir al-Din al-Tusi (d. 1274).

The following set of references is a selection of these ground breaking scholarly works that may be useful for the readers willing to have a glance on first hand scholarship in the history of Islamic astronomy, especially in what regards its influence on Copernicus.

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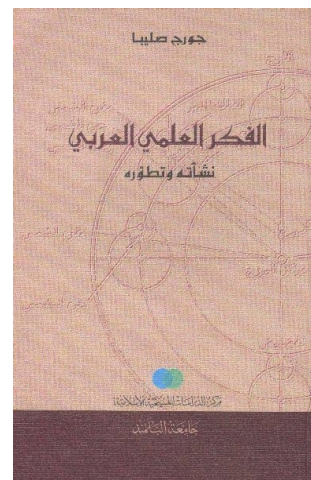


Figure 2. Cover page of *Al-fikr al-'ilmi al-'arabi: nash'atuhu wa tatawwuruhi* (The scientific Arabic thought: its genesis and its development) by George Saliba (Balamand, 1998).

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